

(19) World Intellectual Property Organization  
International Bureau



(43) International Publication Date  
31 July 2003 (31.07.2003)

PCT

(10) International Publication Number  
WO 03/062503 A1

(51) International Patent Classification<sup>7</sup>: C25D 13/02,  
13/14, C04B 38/06, 41/50, H01M 8/12

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(21) International Application Number: PCT/CA03/00059

(22) International Filing Date: 16 January 2003 (16.01.2003)

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(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:  
10/053,241 16 January 2002 (16.01.2002) US

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(81) Designated States (national): AE, AG, AL, AM, AT, AU,  
AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU,  
CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH,  
GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC,  
LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW,  
MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SC, SD, SE,  
SG, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ,  
VC, VN, YU, ZA, ZM, ZW.

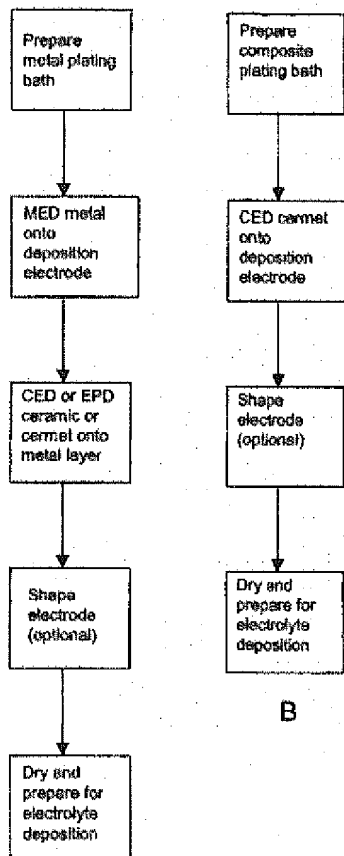
(84) Designated States (regional): ARIPO patent (GH, GM,  
KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW),  
Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM),  
European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE,

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[Continued on next page]

(54) Title: HOLLOW INORGANIC MEMBRANES PRODUCED BY METAL OR COMPOSITE ELECTRODEPOSITION



(57) Abstract: This invention relates to a method of producing a hollow inorganic membrane that is particularly suitable for solid oxide fuel cell applications, as well as producing hollow inorganic composite laminated membranes having at least one such hollow inorganic membrane. The method comprises electrodepositing an inorganic material that includes at least some electrically conductive metal and some ionically conductive ceramic onto an electrically conductive combustible core, drying the core bearing the deposited inorganic material, then, sintering the core bearing the deposited inorganic material such that the core combusts, thereby producing a hollow inorganic membrane. The method may further comprise electrophoretically depositing a ceramic composition onto the hollow inorganic membrane, to produce an assembly of hollow inorganic composite laminated membranes.

WO 03/062503 A1



ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, SE, SI,  
SK, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN,  
GQ, GW, ML, MR, NE, SN, TD, TG).

— before the expiration of the time limit for amending the  
claims and to be republished in the event of receipt of  
amendments

**Published:**

— with international search report

For two-letter codes and other abbreviations, refer to the "Guid-  
ance Notes on Codes and Abbreviations" appearing at the begin-  
ning of each regular issue of the PCT Gazette.

(19) World Intellectual Property Organization  
International Bureau



(43) International Publication Date  
21 August 2003 (21.08.2003)

PCT

(10) International Publication Number  
**WO 03/069705 A3**

(51) International Patent Classification<sup>7</sup>: **H01M 8/24**,  
B01D 63/02

(21) International Application Number: PCT/CA03/00216

(22) International Filing Date: 14 February 2003 (14.02.2003)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:  
10/078,548 14 February 2002 (14.02.2002) US

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CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH,  
GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC,  
LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW,  
MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SC, SD, SE,  
SG, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ,  
VC, VN, YU, ZA, ZM, ZW.

(84) Designated States (*regional*): ARIPO patent (GH, GM,  
KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW),  
Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM),  
European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE,  
ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, SE, SI,  
SK, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN,  
GQ, GW, ML, MR, NE, SN, TD, TG).

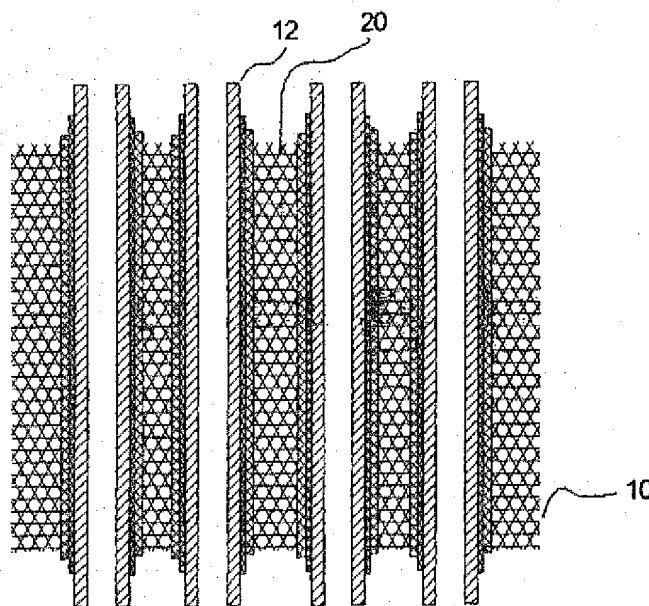
Published:

— with international search report  
— before the expiration of the time limit for amending the  
claims and to be republished in the event of receipt of  
amendments

(88) Date of publication of the international search report:  
9 October 2003

[Continued on next page]

(54) Title: TUBULAR SOLID OXIDE FUEL CELL STACK



(57) Abstract: This invention relates to a stack comprising a continuous solid-phase matrix and tubular fuel cells embedded in the matrix. Each fuel cell comprises an inner electrode layer, an outer electrode layer, and an electrolyte layer sandwiched between the inner and outer electrode layers. The matrix is sufficiently porous to allow a first reactant to flow through the matrix and to the outer electrode of each fuel cell, and have sufficient mechanical strength to support the fuel cells in the stack. The fuel cells are embedded such that a second reactant may be flowed through the inside of each tubular fuel cell and to the inner electrode thereof. Alternatively, a stack of tubular separation membranes or a stack of tubular membrane reactors may be embedded in the matrix. The

WO 03/069705 A3



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